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10/569,824	02/28/2006	Hans-Peter Mettler	LP2012	5378
217 7590 01/11/2010 FISHER, CHRISTEN & SABOL 1120 20TH STREET, NW, SOUTH TOWER, SUITE 750 WASHINGTON, DC 20036				
EXAMINER YOUNG, SHAWQUITA				
ART UNIT		PAPER NUMBER		
1626				
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/569,824

**Applicant(s)**

METTLER, HANS-PETER

**Examiner**

SHAWQUA YOUNG

**Art Unit**

1626

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10 December 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-11 and 13-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 13, 14, 16, 20, 22 and 23 is/are rejected.
- 7) ☒ Claim(s) 2-11, 15, 17-19 and 21 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

Claims 1-11 and 13-23 are currently pending in the instant application. Claims 1, 13, 14, 16, 20, 22 and 23 are rejected and claims 2-11, 15, 17-19 and 21 are objected in this Office Action.

#### **I. *Response to Arguments***

Applicant's arguments, filed December 10, 2009, in reference to the rejection of claim 1 under 35 USC 103 as being unpatentable over Ding, et al. (CN 1356334) have been fully considered but are not persuasive. Applicants argue that the date of the Ding, et al. reference is the copyright date of 2008. The Examiner has withdrawn the use of the abstract and is now using Chinese patent CN 1356334 which was published on July 3, 2002 in view of the English translation of the CN 1356334.

Applicants' argue that the use of Ex parte Bluestone in the Examiner's discussion of prima facie obviousness in the 103 rejection is of no vitality because it does not follow the Supreme Court's Graham and KSR decisions that require the resolution of level of ordinary skill before any determination of obviousness can be made.

However, the Examiner wants to point out that the level of ordinary skill in the art has been resolved in the Examiner's 103 rejection because it was established in earlier case law as cited in the previous Office action (see Ex parte Bluestone) that methyl and hydrogen are interchangeable and are obvious. Also see *In re Wood*, 582 F.2d 638, 199 USPQ 137 (CCPA 1978) which also states that the hydrogen and methyl are deemed obvious variants. These decisions relate to level of ordinary skill in the art of

what are deemed as obvious variants so thus the Examiner has determined that these decisions are adequate support to resolve the level of ordinary skill in the art

The Examiner wants to further state that in KSR, the Supreme Court rejected the rigid application of the teaching, suggestion, and motivation test by the Federal Circuit, stating that "The principles underlying [earlier] cases are instructive when the question is whether a patent claiming the combination of elements of prior art is obvious. When a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one. If a person of ordinary skill can implement a predictable variation, § 103 likely bars its patentability." KSRInt'l v. TeleflexInc., 127 S. Ct. 1727, 1740 (2007). Applying the KSR standard of obviousness to the findings of fact, it would have been obvious to apply the method of the known asymmetric hydrogenation process taught in Ding, et al. in preparing 3-N-methylamino-1-(2-thiophenyl)-1-propanol with a reasonable expectation of success since the prior art taught the preparation of 3-N,N-dimethylamino-1-(thiophenyl)-1-propanol. As seen in Ex parte Bluestone and In re Wood, hydrogen and methyl are deemed obvious variants absent unexpected results. Thus the Examiner has maintained the 103 rejection.

## II. ***Rejection(s)***

### ***35 USC § 103 - OBVIOUSNESS REJECTION***

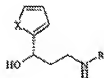
The following is a quotation of 35 U.S.C. § 103(a) that forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

*Graham v. John Deere Co.* set forth the factual inquiries necessary to determine obviousness under 35 U.S.C. § 103(a). See *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966). Specifically, the analysis must employ the following factual inquiries:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1, 13, 14, 16, 20, 22 and 23 are rejected under 35 U.S.C. § 103(a) as being unpatentable over *Ding, et al.* (see CN 1356334). The Examiner has used the English translation of CN 1356334 as a reference for the 103 rejection. Applicants claim a process for the preparation of a chiral compound of formula

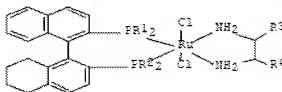


wherein X represents S or O and R represents hydrogen, C1-6 alkyl, C3-5 cycloalkyl, aryl or aralkyl, each aryl or aralkyl being optionally further substituted as defined in claim 1 which process comprises the asymmetric hydrogenation of a compound of formula II wherein X and R are as defined above in the presence of a transition metal complex of a chiral bidentate phosphine ligand, that is a

stabilizing and optionally a base.

**The Scope and Content of the Prior Art (MPEP §2141.01)**

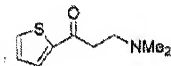
*Ding, et al.* teaches an asymmetric catalytic hydrogenation of ketones by using a



Ru complex of formula

as a catalyst

wherein all variables are as defined on page 8 of the translation. The various reactions disclosed in the reference include the asymmetric hydrogenation of



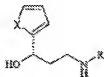
(See embodiment 28, page 16 or see page 28 of the translation).

**The Difference Between the Prior Art and the Claims (MPEP §2141.02)**

The difference between the prior art of *Ding, et al.* and the instant invention is that the amine in the structure in the instant compounds is a methyl amine (secondary) whereas the amine in the prior art is a dimethyl amine (tertiary).

**Prima Facie Obviousness-The Rational and Motivation (MPEP §2142-2413)**

Applicants are claiming a process for preparing a compound of



formula

wherein the variables are as defined in claim 1 which the

process comprises the asymmetric hydrogenation of a compound of formula II in the presence of a transition metal complex of a chiral bidentate phosphine ligand. The prior art reference of *Ding, et al.* teaches a similar process wherein the amine group in the compound is a dimethyl amine(tertiary) versus a methyl amine (secondary) in the instant compound.

In Ex parte Bluestone, 135 USPQ 199, it was well established that the interchange of alkyl and hydrogen is obvious in and of itself and in addition secondary and tertiary amines are interchangeable. Also see *In re Wood*, 582 F.2d 638, 199 USPQ 137 (CCPA 1978) which also states that the hydrogen and methyl are deemed obvious variants. For example, it is obvious to prepare a beta amino ketone wherein the amine group is substituted with an alkyl group (i.e. methyl) using asymmetric hydrogenation in the presence of a transition metal complex of a chiral bidentate phosphine ligand when the art teaches a similar process wherein the amine group in the ketone is disubstituted with dimethyl with a reasonable expectation of success. Specifically, a monomethyl substituted beta-amino ketone and a dimethyl substituted beta-amino ketone are considered homologues and are obvious absent unexpected results. The motivation for one of ordinary skill in the art to prepare 3-N-methylamino-1-(2-thiophenyl)-1-propanol by using the known process of *Ding, et al.* which teaches the asymmetric hydrogenation of 3-N,N-dimethylamino-1-(thiophenyl)-1-propanol would be to obtain high

enantioselectivity of the mono-substituted  $\beta$ -amino alcohol which was obtained with the N,N-dimethyl substituted  $\beta$ -amino alcohol in the prior art. Therefore, it would have been prima facie obvious to one having ordinary skill in the art at the time the invention was made to prepare 3-N-methylamino-1-(2-thiophenyl)-1-propanol by using the asymmetric hydrogenation process of the prior art which teaches the preparation of 3-N,N-dimethylamino-1-(thiophenyl)-1-propanol since both compounds are considered homologues. A strong prima facie obviousness has been established.

### III. Objections

#### Dependent Claim Objections

Dependent 2-11, 15, 17-19 and 21 are objected to as being dependent upon a rejected based claim. To overcome this objection, Applicant should rewrite said claims in an independent form and include the limitations of the base claim and any intervening claim.

### IV. Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shawquia Young whose telephone number is 571-272-9043. The examiner can normally be reached on 7:00 AM-3:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph McKane can be reached on 571-272-0699. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Shawquia Young/

Examiner, Art Unit 1626